Adventures of Amelia the Pigeon Teacher's Guide

Unit 1 : Earth from Above (K-2)

Unit 1 : Earth from Above (K-2)

Unit 2 : Our Changing Earth (K-2)

Unit 2 : Our Changing Earth (3-4)

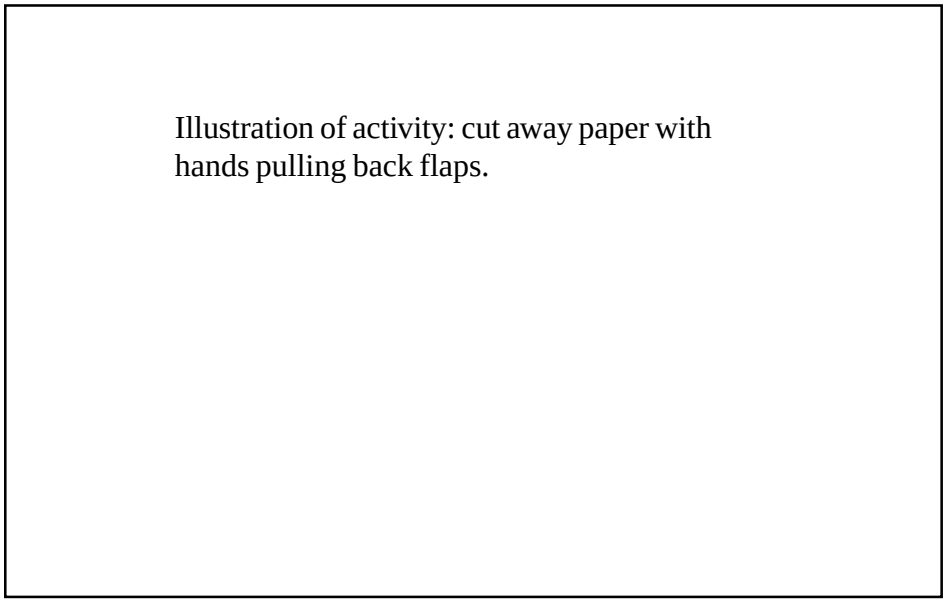
Unit 3: The Urban Habitat (K-2 & 3-4)

Different Perspective

GRADES 3-4

About this Lesson

Students will begin by thinking about how things look from above. Students will draw a picture of an object from above and provide 4 clues to help their classmates guess the object. They will work together to arrive at a definition of the word perspective. Using aerial photos, students will identify city features and compare and contrast these features from higher perspectives. They will extend what they learned by identifying city features in a satellite image



OBJECTIVES: Students will:
- Draw an object from a top down perspective
- Design a set of clues for predicting the object
- Identify city features in aerial and satellite imagery

SKILLS: use perspective in drawing, measurement, using scale, write appropriate clues, observation, use description in writing

STANDARDS: Benchmarks: 2A, 11C
NCTM: Standard 9, Standard 10, Standard 13
NGS: Standard 1
NCSS: III b, III c, III d

MATERIALS: Dictionary, Thesaurus, photographs taken from above, aerial photographs of their geographic area, satellite images, manila paper,
Black construction paper – same size as manila paper
(NOTE: imagery will be provided as black-line master)

SET-UP: The students should draw a large x on each sheet of black paper, starting in about 1-2 inches from each corner. Then they should fold along one of the lines on the x. Then fold it on the line they just cut, and cut the other line. To save time, the teacher could do this ahead of time using an Xacto knife or razor blade and do more than one sheet at a time.

READY, SET, GO! Ask the students to think about a time when they were somewhere high up, (like in a tree, tall building, etc) and looked down.

Guiding Questions: *What did you see? What is the difference between looking at something from high up, and being on the ground and looking at it? Why do you think this happens?*

ENGAGE: Ask the students to think about what a school bus would look like if they were in a tree above the bus looking down. Invite a few students to draw a rough sketch on the board. What other things could we draw looking down from above? What do you have to think about if you want to draw something from above? If you were looking at something from above, what part of it would you see? How would you draw it? Refer back to the bus sketches.

EXPLORE: Explain to the students that they will be drawing an object from the perspective of looking down on it from above. The object could be something from the classroom or home, or something they remember seeing. Their classmates will be trying to guess what their object is by looking at their drawing. Once the drawing is complete, they need to take their cut piece of black construction paper and fold back the four flaps of the cut paper to form an open square in the center. Next they glue the manila paper to the black paper so that their picture is showing in the opening. On the front of each flap they should write a number, 1-4. On the back of each flap they should write a clue about their object. (The clues should be written in advance, and checked for spelling, grammar, clarity, etc). The clues should get increasingly more detailed - the first being the most general and the fourth being the most specific. When their classmates try to guess what their drawing is of, they may use the clues if necessary, but must use them in order. Have them summarize for you what they have learned about top-down perspective.

EXPLAIN: Have the students get into small groups and discuss what the word perspective means. They should be encouraged to use a variety of classroom resources. Have each group record their findings on chart paper, and post them for the class to see. After each group has shared their responses, sum up their definitions. Now share the pictures of city features from the perspective of looking down. Ask the students to identify and list (on the chart paper) the features in the photos. Each group should now write a sentence about where the photographer was in order to take this photo.

Give each group the first aerial photo, (the one taken closer to the ground) and the pictures of the city features and ask them to locate those features in the aerial image. Engage them in a discussion of how they are finding the city features in the aerial photo. Ask the students to investigate the aerial image and record at least 3 more features. Then give them the second aerial photo (the one taken from a higher altitude), and have them find the same features. Using the word perspective, ask the students to write a sentence describing the difference between the two aerial photos.

Guiding Questions: *What strategy are you using to find the features? Are there differences in how the features look in the aerial photos? Do you need to focus on different things in the second aerial photo? What shapes and patterns do they see?*

EXTEND: Have the students break into small groups. Each group should take an aerial photograph and a satellite image back with them. They should observe the photographs, again noticing how they are finding the same top-down image in this satellite image? Have them list the strategies they are using. Share the strategies with the class. Point out, if needed, how the shapes and patterns in all of the images are the best way to continue locating features on images taken from higher and higher perspectives. As the altitude increases, the students may find themselves focusing on the shape or pattern of surrounding features, rather than the original feature.

EVALUATE: Give each group a new satellite image. Do not tell them where the image is from. Again, ask them to identify key city features. Can they find all the same city features that are visible in the aerial photos? What features have become more difficult to identify? Why? When the groups have finished, have each group share what they observed about their satellite image. After everyone has shared, each student should choose one of the images (doesn't have to be from their group) and write a descriptive paragraph about it. Their paragraph should include what they believe the city features are and why. The groups should decide what kind of area they think their image is from (urban, rural, suburban, coastal, inland, etc...) based on the features. They should also describe what details of the satellite image led them to that conclusion. After they have finished, post the satellite images and the paragraphs, and then provide the students with a map or an atlas showing where their satellite image is from. *How close were they in guessing? How alike is their guess to the actual region?*